DOMESTIC VIOLENCE DURING PREGNANCY AND RISK OFOBSTETRICAL COMPLICATIONS AT DSCHANG DISTRICT HOSPITAL

ABSTRACT

Intimate partner violence is a phenomenon that affects a significant number of women and has an important impact on society. This conjugal violence against women can have important consequences on their health as well as on the health of the unborn child during pregnancy.

In order to assess the risk of obstetrical complications in women who are victims of domestic violence, we conducted a descriptive cross-sectional study with an analytical component to determine the association between domestic violence and obstetrical complications on the one hand, and to determine the factors associated with domestic violence on the other. The descriptive part consisted of determining the prevalence of domestic violence and neonatal complications, and describing the different types of violence. A questionnaire was self-administered to pregnant women who came for prenatal consultations at the Dschang District Hospital.

Amongst 320 women approached, 300 agreed to participate in the study. The overall prevalence of spousal violence was 37.33%, and the prevalence of spousal violence during pregnancy was 13.33%; the prevalence of neonatal complications was 20.7%, premature deliveries accounted for 7.7%, miscarriages 7%, stillbirths 6.7%, while the prevalence of low birth weight babies was 1.7%. Domestic violence was significantly associated with neonatal complications (OR=4.1 p value=0.000). Regarding the types of violence, verbal and psychological violence had a frequency of (108)36%, physical violence which represented (40) 13.3%, control and financial violence represented (23) 7.7% and (30) 10% respectively; sexual violence was the least represented with (20) 6.7%. Regarding the factors associated with domestic violence, the 25-34 age group of the woman (p value 0.02, OR: 4.2), consumption of alcohol by the partner (p value 0.02, OR: 4.14) and the history of violence before pregnancy (p value 0.001, OR: 92.91) were significantly associated with domestic violence.

Early identification of abuse in pregnant women and taking steps to prevent it may reduce the occurrence of these adverse outcomes.

Key words: Domestic violence, obstetrical complications, preterm delivery, stillbirth, miscarriage.

INTRODUCTION

Violence againstwomen by theirpartnersremained an almost invisible phenomenonuntil the mid-1970s, when efforts to denounce and document itbegan to multiply. [1]. The United Nations defines violence againstwomen as "all acts of gender-based violence thatresult in, or are likely to result in, physical, sexual or psychologicalharm or suffering to women, includingthreats of suchacts, coercion or arbitrarydeprivation of liberty, whetheroccurring in public or in private life".[2].

According to the World HealthOrganization, partner violence isdefined as "anyact of violence within an intimaterelationshipthat causes physical, psychological or sexualharm or suffering to thoseinvolved. Alsoincluded are the threat of suchacts, coercion, arbitrarydeprivation of liberty in public and private life." [3].

This violence can be : Verbal (insults, shouting, threats, blackmail), oftentrivialized;psychological (contempt, ignorance, domination, devaluation, intimidation, climate of fear); physical (injuries of all kinds and sexual abuse), up to and includingrape and homicide; economic: financial and administrative (deprivation of all resources, control of payments, ban on working, confiscation of documents: national identitycard, healthinsurancecard, passport, diplomas, etc.). In the vastmajority of cases, theseforms of violence are repeated and cumulative.

The two main moments at risk of violence in a woman's life are :

- the break-up, where the aggressorcan't stand hispartner'sdepaI'llrture.

- pregnancy, whichis a triggering factor for 40% of womenabused by theirpartner, and an aggravating factor for around 2/3 of womenalreadyabused. [4]

Pregnancyis a major upheaval in a couple'semotional and relational life [4]Italso entails a heavyresponsibility for the unbornchild, making the pregnantwoman more vulnerable. [5].

It'salso a propitiousperiod in a woman's life for detectingpast or present violence. The pivotal period of pregnancyisalso a time of emotional and physicalinstability, leading to psychologicalupheaval. [6]. This delicateperiod can alsobe a trigger or aggravating factor for domestic violence [5]. If pregnancyis a high-riskperiod, it'sbecause violence tends to begin or intensifyduringthese few months. [7]. Depending on the type, degree and frequency of violence, the consequenceswillvary. All theseforms of violence have impacts and consequencesthat are oftenserious for both the woman and the fetus. First of all, it can intensify stress, depression and eatingdisorders, all of which can lead to obstetrical complications and fetaldeath in utero.[8]

In Cameroon, according to data from the 2011 Demographic and Health Survey, womenreported high rates of domesticviolence:physical violence 45%, emotional violence 42% and sexual violence 20%. According to a study in Cameroon,

womenexposed to domestic violence duringpregnancywere 50 times more likely to suffer at least one episode of fetallosscompared to women not exposed to violence. Fetalmortalitywasassociatedwith all forms of domestic violence [9].

In view of all these analyses, wedecided to carry out a study to assess the risk of obstetrical complications in womenwho are victims of domestic violence at Dschang district hospital. This willgive us an idea of the current figures for thisproblem at Dschang district hospital, and enable us to makerecommendations for better management of thesewomenwho are victims of violence duringpregnancy.

MATERIALS AND METHODS

1. Studydiagram

This was a cross-sectional studywith an analytical component. Data werecollectedfrompregnantwomen in hospitalsusing a self-administered questionnaire. The analytical component involvedlogisticregression to determine the association betweendomestic violence and neonatal complications, and to identifyfactorsassociatedwithdomestic violence.

2. Study location

The studywascarried out at the Dschang district hospitallocated in the Dschang health district, Menoua department of the West region.

3. Study duration

This studytook place fromOctober 2021, whenwebegan drafting the protocol, to July 2022, whenwepresented the data collected. 4. Studyperiod This periodranfromFebruary to March 2022, the periodduringwhich data collection took place.

5. Study population

The studyincludedpregnantwomen living withtheirpartnerwho came for a simple routine prenatal consultation and lived in the city of Dschang.

6. Selectioncriteria : Inclusion and non-inclusion criteria

6.1. Inclusion criteria

Pregnantwomenwhoweremarried or living withtheirpartner and who came for an antenatal consultation at Dschang district hospital, and whoagreed to take part in the study.

6.2. Non-inclusion criteria

Women consulting for otherreasons, minors, not living withtheirpartner or refusing to take part in the study.

6.3. Exclusion criteria

All questionnaires thatwereincorrectlycompleted or incomplete.

7. Sample size calculation

The sample size wascalculatedusingLorentz's formula. Assumingthat the prevalence of domestic violence duringpregnancyis 25.8% according to a studyconducted in Ethiopia (15), a confidence interval of 95% and a margin of error of 5%. N = minimum sample size Z = 1,96 P = prevalence of domestic violence duringpregnancy (25.8%) D = studyprecision (0.05)

$N= Z^2. P (1-P) /D^2$

N= 1.962 *0.258*0.742/0.052 =285.44

8. Implementationprocedures

1. Design of data collection tools

For ourstudy, the questionnaire wasdrawn up by the principal investigatorunder the supervision of the supervisor. The latter usedit as a pretext to makeanynecessary modifications, and finallyvalidatedit.

2. Authorizationsearch

The protocolwassubmitted to the Cameroon National EthicsCommittee for ethicalapproval. The protocolwassubmitted to the director of the Dschang district hospital for authorization to carry out data collection

9. Data analysis procedure

The data collected was entered into Épi info7 software, then exported and analyzed using SPSS version 20.0 and Microsoft Excel 2016.

SPSS software was used to identify the different numbers and frequencies of variables, and a logistic regression analysis was performed to assess the association between exposure to domestic violence and obstetrical complications, and to determine the factors associated with domestic violence.

The results are presented in the form of tables and graphs containing numbers and frequencies. Presentation is based on the objectives of the study.

RESULTS

The population westudiedconsisted of 320 women, 300 of whomagreed to take part in the study, i.e. a participation rate of 93.75%.

1. Socio-demographiccharacteristics

According to Table 1, the highest participation 173 (57.7%) wasrecordedamong participants in the 25-34 agebracket, whilethose in the 35-45 agebracketwerelessnumerous 27 (9%). The majority of participants were Christian, withCatholicspredominating, while the minority 10 (3.3%) wereMuslim.

Married womenrepresented 195 (65%) of our population, comparedwith 105 (35%) living in a common-law union withtheirpartner. In terms of level of education, 166 (55.3%) womenhad been educated to tertiarylevel, 127 (41.7%) to secondarylevel and 9 (3%) to primarylevel. With regard to the distribution of different professions, almosthalf of housewives and studentshad no profession, i.e. 68 (22.7) and 83 (27.7%) respectively; and 127 (49.6%) of womenhad a professionalactivity, the majority of whomwereshopkeepers.

Table 1: Sociodemographiccharacteristics of pregnantwomenaged 15 to 45 attending ANC at HD Dschang fromFebruary to March 2022 whoparticipatedin ourstudy

Features	Workforce	Frequency (%)	95% CI
Age ranges			
15-24	100	33.3	[27,9 ; 38,6]
25-34	173	57.7	[52,1 ; 63,2]
35-45	27	9	[5,7 ; 12,2]
Religions			
Catholic	203	67.7	[62,4 ; 72,9]
Protestant	52	17.3	[13,0 ; 21,5]
Muslimwomen	10	3.3	[1,2 ; 5,3]
OtherChristians	21	7	[4,1 ; 9,8]
No religion	14	4.7	[2,3 ; 7,1]
Marital status			
Bride	195	65	[59,6 ; 70,4]
Cohabitation	105	35	[29,6 ; 40,4]
Education level			
Primary	9	3,0	[1,1 ; 4,9]
Secondary	125	41,7	[36,1 ; 47,2]
Superior	166	55,3	[49,6 ; 60,9]
Professions			
Retailer	43	14,3	[10,3 ; 18,2]
publicemployee	34	11,3	[7,7 ; 14,8]
privateemployee	46	15,3	[11,2 ; 19,3]
Student	83	27,7	[22,6 ; 32,7]
Housekeeper	68	22,7	[22,6 ; 32,7]
Farmer	4	1,3	[0,01 ; 2,7]
Self-employed	7	2,3	[0,6 ; 3,9]
Other	15	5,0	[2,5 ; 7,4]

- **Intimatepartner profile**

According to Table 2, most of the 147 men (49%) were in the 26-35 agebracket; more thanhalf of the partners (159, 53%) hadcompletedtertiaryeducation, while a minority (17, 5.7%) had not gone beyondprimaryschool. In terms of profession, 30 (10%) of the partnerswereunemployedstudents, while the majority of the men wereshopkeepers.

Table 2:Socio-demographiccharacteristics of partners (men) of pregnantwomenaged 15 to 45 attending ANC at HD Dschang fromFebruary to March 2022 whoparticipated in ourstudy.

Features	Workforce	Frequencies	95% CI
Age ranges			
15 – 25	36	12,0	[8,3 ; 15,6]
26 – 35	147	49,0	[43,3 ; 54,6]
36 – 45	98	32,7	[27,3 ; 38,0]
46 – 55	17	5,7	[3,1 ; 8,3]
56 et plus	2	0,7	[0 ; 1,6]
Education level			
Primary	17	5,7	[3,1 ; 8,3]
Secondary	124	41,3	[35,7 ; 46,8]
Superior	159	53	[47,3 ; 58]
Professions			
Retailer	93	31,0	[25,7 ; 36,2]
public employee	18	6,0	[3,1 ; 8,3]
privateemployee	85	28,3	[23,2 ; 33,3]
Student	30	10,0	[6,6 ; 13,3]
Housekeeper	23	7,7	[4,6 ; 10,7]
Farmer	12	4,0	[1,7 ; 6,2]
Self-employed	13	4,3	[2,0 ; 6,6]
Other	26	8,6	[5,4 ; 11,7]

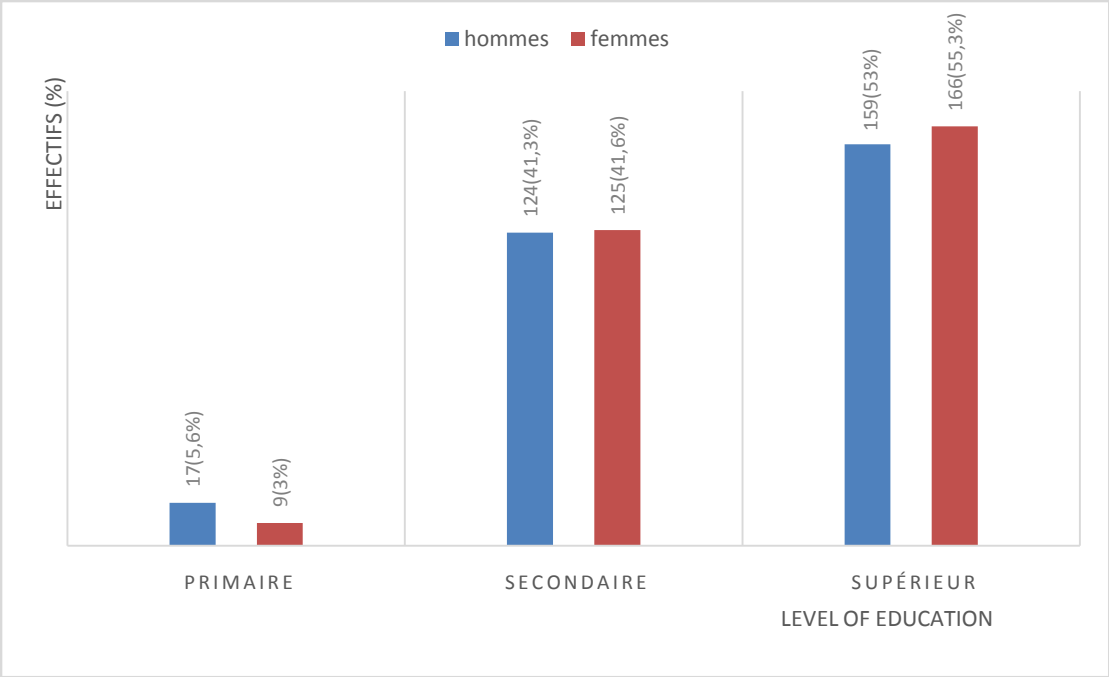

Figure 1: Education level of men and of pregnantwomenattending ANC at HD Dschang fromFebruary to March 2022 whoparticipated in ourstudy.

According to figure 1, the proportion of educatedwomenishigherthanthat of men. 166 (55.33%) of womenwereeducated to tertiarylevel, comparedwith 159 (53%) of men; 125 (41.66%) of womenattendedsecondaryschool, comparedwith 124 (41.33%) of men; 9 (3%) stopped at elementaryschool, comparedwith 17 (5.66%) of men.

2. Prevalence of domestic violence

La prévalence générale de la violence conjugale était de 37,33 % (112/300) dans notre étude.

The overallprevalence of domestic violence was 37.33% (112/300) in ourstudy. According to table 3, women in the 25-35 age group recorded the highestprevalence 74 (24.66%) comparedwithotherage groups; thisprevalencewashighest 50 (16.66%) amongwomen in monogamoushouseholds, followed by those living in concubinage 39 (13%) and finally a lowprevalence 23 (7.66%) amongwomen in polygamousmarriages;

The prevalence of conjugal violence washigheramongmultiparouswomen 85 (28.33%) compared to primiparouswomen 27 (9%); wealsonotedthatthisprevalencewashigheramongeducatedwomencompared to lesseducatedwomen, i.e. 49 (16.66%) amongthosewithhighereducation, 57 (19%) amongthosewithsecondaryeducation and 6 (2%) amongthosewithprimaryeducation;

womenwhowerefinanciallydependent on theirspouse62 (20.66%) were more prone to domestic violence thanwomenwhowere not financiallydependent 50 (16.66%); Similarly, the prevalence of violence washigheramongwomenwithlowmonthlyhouseholdincomesthanamongthosewith high monthlyincomes.

Table 3 : Prevalence of domestic violence amongpregnantwomenaged 15 to 45 attending ANC at HD Dschang fromFebruary to March 2022 whoparticipated in ourstudy.

Features	Workforce	Prévalence (%)	95% CI
Age ranges			
[15 - 25[	28	9.33	[6,0 ; 12,6]
[25 - 35[	74	24.66	[19,7 ; 29,5]
[35 – 45]	10	3.33	[1,2 ; 5,3]
Type of wedding			
Monogamous bride	50	16.66	[12,4 ; 20,8]
Polygamous bride	23	7.66	[4,6 ; 10,6]
Cohabitation	39	13	[9,1 ; 16,6]
Parity			
Multipare	85	28.33	[23,2 ; 33,4]
Primipare	27	9	[5,7 ; 12,2]
Education level			
Primary	6	2	[0,4 ; 3,5]
Secondary	57	19	[14,5 ; 23,4]
Superior	49	16.3	[12,1 ; 20,5]
Financial dependence on spouse			
yes	62	20.6	[16,0 ; 25,2]
No	50	16.66	[12,4 ; 20,8]

Monthlyhouseholdincome			
[0 - 100 000[	59	19.66	[15,1 ; 24,1]
[100 000 - 150 000[	14	4.66	[2,2 ; 7,0]
[150 000 - 200 000[	18	6	[3,3 ; 8,6]
[200 00 - 250 000[	4	1.33	[,03 ; 2,6]
Plus de 250 000	3	1	[0 ; 2,1]
No idea	14	4.66	[2,2 ; 7,0]

2.1. Prevalence of domestic violence amongpregnantwomenduringpregnancy

Despitebeingpregnant, 73 (24.33%) of the women in ourstudyadmitted to sufferingvarious types of domestic violence; 40 (13.33%) admittedthatthis violence beganwhentheywerepregnant, while the rest of the womenhadalreadysuffered violence beforepregnancy.

2.2. Causes of domestic violence

The various causes of domestic violence in oursamplewere arguments between the 2 partners, with a prevalence of 27 (9%), followed by going out without the partner's agreement 16 (5.3%), thenfailure to carry out householdchores, and the minorityreasonwasrefusal to have sexwithone'spartner 9 (3%). Otherwomen 8 (2.7%), on the other hand, refused to sharewith us the reasonswhytheywereabused.

Table 4:different causes of domestic violence listed by pregnantwomenaged 15 to 45 attending ANC at HD Dschang fromFebruary to March 2022 whoparticipated in ourstudy.

Reasons	**Workforce**	**Frequency (%)**
If shedoesn't do the housework	11	3,7
If she refuses to make love to him	9	3,0
If she argues withhim	27	9,0
If shegoes out without	16	5,3

warning		
Other	8	2.7

3. Prevalence of obstetrical complications

Obstetrical complications includedmiscarriage, prematuredelivery, stillbirth and lowbirthweight. The overallprevalence of these complications was 20.7%. According to Table 5, prematuredeliverieshad the highestprevalence 23 (7.7%), followedclosely by miscarriages 21 (7%) and stillbirths 20 (6.7%), whilelowbirthweighthad the lowestprevalence 5 (1.7%)

Table 5:Prevalence of obstetrical complications amongpregnantwomenaged 15 to 45 yearsattending ANC at HD Dschang fromFebruary to March 2022 whoparticipated in ourstudy.

Obstetrical complications	**Workforce**	**Prevalence**
Miscarriages	21	7
Prematurebirths	23	7.7
Low-weightchild	5	1.7
Stillbirths	20	6.7

T**able 6** shows that 40 of the 62 womenwithobstetrical complications werevictims of domestic violence. Over half (64.5%) of womenwithobstetrical complications werevictims of domestic violence. Analysis of the table also shows that 22 womenwithobstetrical complications were not victims of domestic violence. This represents a percentage of 35.5%.

Table 6: Distribution of obstetrical complications according to domestic violence amongpregnantwomenaged 15 to 45 attending ANC at HD Dschang fromFebruary to March 2022 whoparticipated in ourstudy.

Victim of Domestic Violence	**Obstetrical complication**		
	No	yes	Grand total
No	166	**22**	188
Yes	72	**40**	112
Grand total	238	**62**	300

3.1 Studying the association between the "obstetrical complication" variable (dependent variable) and the "domestic violence" variable (explanatory variable) usinglogisticregression

Afterlogisticregression, wefoundthat the P value wassignificant at the 5% threshold, Exp(B)=OR= 4.192, i.e. womenwhowerevictims of domestic violence were 4.192 times more likely to have an obstetrical complication thanthosewhowere not, and the confidence intervaldoes not contain the value 1 (2.326-7.556).

Table 7: Logisticregressionbetween the dependent variable (obstetrical complications) and the explanatory variable (domestic violence)

	P.Valeur	Odds ratio	95% confidence interval	
			Lower	Superior
Domestic violence	,000	4,192	2,326	7,556

4. Description of the different types of domestic violence

Wethenstudied the distribution of the different types of domestic violence experienced by the participants in ourstudy. Verbal and psychological violence had the highestfrequency (108)36% compared to other types of violence, followed by physical violence whichrepresented (40) 13.3%; control and financial violence represented (23) 7.7% and (30) 10% respectively; sexual violence was the least representedwith (20) 6.7%.

Table 8: different types of violence listed by pregnantwomenaged 15 to 45 who came to ANC at HD Dschang fromFebruary to March 2022 and took part in ourstudy.

Types of violence	**Effectifs**	**Fréquency (%)**	**95% CI**
Physical violence			
Yes	40	13,3	[9,4 ; 17,1]
Verbal and psychological abuse			
yes	108	36,0	[30,5 ; 41,4]
Control violence			

yes	23	7.7	[4,6 ; 10,7]
Financial violence			
yes	30	10,0	[6,6 ; 13,3]
Sexual violence			
yes	20	6,7	[3,8 ; 9,5]

5. Logisticregressions: search for factorsassociatedwithdomestic violence

5.1. Overview of variables used in logisticregression

Table 9below shows that :

Over a quarter 112 (37.3%) of womenwerevictims of domestic violence. The majority 282 (94%) of the womensurveyedwere over 18 on the day of theirmarriage, and chose theirpartnerthemselves. Over half 173 (57.7%) of the womenwereagedbetween 25 and 35; half 150 (50%) weremonogamouslymarried, 45 (15%) werepolygamouslymarried, 105 (35%) werecohabiting. More thanhalf of the women 166 (55.3%) and theirpartners 159 (53%) hadhighereducation. Just over half 151 (50.3%) of the womenwerefinanciallydependent on theirpartner. Over 60% (194) foundtheirpartner'smonthlyincomeaverage, and 46 (15.3%) founditlow. Over a quarter 86 (28.7%) of the women'spartnersdrankalcohol; the majority 277 (92.3%) of partnersdid not use drugs. More thanhalf 204 (68%) of the womenweremultiparous. More thanhalf 175 (58.3%) of the womenhad no history of violence prior to pregnancy.

Table 9: List of explanatory variables for logisticregression

Variables	**Modality N= 300**	**Numbers (frequency) n (%)**
domestic violence	0 = No	188 (62,7)
	1=yes	112 (37,3)
women'sage group	1="[15 − 25["	100 (33,3)
	2= "[25 − 35["	173 (57,7)
	3="[35 − 45[",	27 (9)
Age range of partners	1= "15 − 25",	36 (12)
	2= "26 − 35"	147 (49)

	3= "36 − 45",	98 (32,7)
	4= "46 et plus"	19 (6,4)
marital status	1= "Monogamous bride	150 (50)
	2"Polygamous bride"	45 (15)
	3= "cohabitation"	105 (34,7)
educationlevelwoman	1= "Primary	9 (3)
	2="Secondary"	125 (41,7)
	3= "Superior"	166 (55,3)
educationlevelpartner	1= "Primary	17 (5,7)
	2="Secondary"	124 (41,3)
	3= "Superior",	159 (53)
financialdependence on spouse	0 = No	149 (49,7)
	1 = yes	151 (50,3)
how do youfind out yourpartner'smonthlyincome ?	1= "good",	46 (15,3)
	2= "low",	60 (20)
	3="Medium"	194 (64,7)
estimate of generalmonthlyincome	1= "good",	39 (13)
	2= "low",	66 (22)
	3="Medium"	195 (65)
partner'salcoholconsumption	0= "No"	214 (71,3)
	1 ="yes	86 (28,7)
drug use	1= "No"	277 (92,3)
	2= "Don't know"	19 (6,3)
	3= "yes",	4 (1,3)
Parity	1="Primipare"	96 (32)
	2="Multipare"	204 (68)
history of violence prior to pregnancy	1="No",	40 (13,3)
	2="Non applicable"	175 (58,3)
	3="yes"	85 (28,3)
age on weddingday	1="Over 18	282 (94)

	yearsold"	
	2="Under 18 "	18 (6)
partnerselection	1="Yourself"	282 (94)
	2="Yourfamily"	18 (6)

5.2. Bi-variateanalysis: Test between the spousal violence variable and the explanatory variables

Our aimherewas to analyze inter-variable associations. As our variables were qualitative, the statistical test usedwas the Chi-square 2 with a significancelevel of 10%.

Table 10shows that, at the 5% threshold, the variables associatedwithdomestic violence duringpregnancywere the man's age (P value = 0.027), the patient'slevel of education (P value = 0.003), partner'slevel of education (p value 0.000), partner's use of alcohol (p value = 0.000013) and drugs (p value = 0.004), parity (p value = 0.032), and history of violence prior to pregnancy (p value = 2.2e-16). And at the 10% threshold the variables thatwererelated to spousal violence duringpregnancywereWoman's Age Range (P-value= 0.051) and Marital Status (P-value=0.094). Other variables such as ¨how do youestimateyourmonthlyhouseholdincome¨, ¨how do youestimateyourpartner'smonthlyincome¨, ¨financialdependence on spouse¨, were not associatedwith the dependent variable.

Table 10: Significance test of explanatory variables at the 10% threshold

Explanatory variables	**Valeur du test du Chi-2**	**p-value**
Age range of woman	5.913	**0.051**
Male age range	10.942	**0.027**
Marital status	6.3837	**0.094**
Patient'slevel of education	11.295	**0.003**
Partner'slevel of education	16.192	**0.000**
Financial dependence on spouse	1.497	0.221
How wouldyouestimateyourhousehold'smonthlyincom	0.730	0.694

e?		
How wouldyouestimateyourpartner'smonthlyincome?	1.877	0.391
Alcoholconsumption	23.298	**$1.388e^{-06}$**
Drug use	11.025	**0.004**
Parity	4.554	**0.032**
History of violence prior to pregnancy	228.69	**$< 2.2e^{-16}$**
You gotmarried at whatage	10.942	**0.027**
Who chose yourpartner	5.771	**0,016**

Our target variable being a dichotomous variable, weused a logistic model to seewhich variables determined and explaineddomestic violence duringpregnancy. Weconsidered the variables linked to ourtarget variable at the 10% threshold

5.2.1. Determiningriskfactorsrelated to domestic violence

The results of the logisticregressionpresented in Table 11showedthatmost of the modalities of the varietywere not statisticallysignificant at the 5% level. Only the modalities of the variables Partner'salcoholconsumption, History of violence beforepregnancy and Woman'sageweresignificant at the 5% threshold.

Table 11: Multivariateanalysis of factorsassociatedwithdomestic violence amongpregnantwomenaged 15 to 45 attending ANC at HD Dschang fromFebruary to March 2022.

Variables	**Terms and conditions**	**OR (confidence interval)**	**P value**
Age of the woman	[15− 25[	Reference	1
	[25 − 35[	4,20 (1.29, 15.84)	**0,02**
	[35 − 45[	3,32 (1.60, 22.45)	**0,04**
Partner'sage	¨15− 25¨	Reference	1

	"26 − 35"	0,64 (0.03, 14.28)	0,78
	"36 − 45"	9,23 (0.42, 283.55)	0,18
	"46 − 55"	4,20 (0.04, 415.35)	0,54
Woman'slevel of education	Primary	Reference	1
	Secondary	2,22 (0.01, 510.1)	0,81
	Superior	0,19 (0.00, 35.84)	0,63
Marital status	Monogamousbride	Reference	1
	Polygamousbride	0,59 (1.53, 5.71)	0,65
	cohabitation	7,89 (1.53, 54.89)	0,06
Partner'slevel of education	Primary	Reference	1
	Secondary	1,14 (0.01, 510.81)	0,96
	Superior	1,32 (0.02, 224.90)	0,91
Financial dependence on spouse	No	Reference	1
	yes	1,62 (0.35, 8.26)	0,55
How wouldyou rate yourpartner'smonthlyincome?	good	Reference	1
	low	2,54 (0.16, 46.95)	0,52
	Medium	1,03 (0.01, 60.34)	0,99
Estimatedgeneralmonthlyincome	good	Reference	1
	low	0,24 (0.01, 4.57)	0,34
	Medium	0,26 (0.00, 20.14)	0,53
Partner'salcoholconsumption	No	Reference	
	yes	4,14 (1.33, 13.85)	**0,020**
Partner'sdrug use	Don't know	Reference	1
	yes	24,60 (0.01, 67.84)	0,51
	No	1,43 (0.07, 37.39)	0,83
Parity	Multipare	Reference	1
	Primipare	1,09 (0.18, 6.46)	0,92
History of violence prior to pregnancy	No	Reference	1
	yes	92,91 (14.42,	**<0,001**

	N A	23.24)	**<0,001**
		0,00 (0.00, 0.02)	

The results of the logisticregressionpresented in Table 11 above show thatmostmodalities of variety are not statisticallysignificant at the 5% level. The olderage of the woman (P=0.02, CI 1.29-15.84), the factthat the partnerdrankalcohol (P=0.02, CI 1.33-13.85) and a history of violence beforepregnancy (P=0.001, CI 14.42- 23.24) weresignificantlyassociatedwithspousal violence duringpregnancy.

DISCUSSION

The overallaim of ourstudywas to assess the risk of fetal complications in womenvictims of domestic violence at the Dschang district hospital; thisstudyrevealed new information thatwaslacking in research in our country. Domestic violence accounts for the lion'sshare of violence suffered by women on a daily basis; violence has been used by man since the dawn of time. It is a toolthatinvades, destroys and destabilizesterritory, whetherthat of the victimor the aggressor; ourstudyrevealedthat the overallprevalence of domestic violence was 37.33%, all types combined, thisfrequencywaslowerthanthat of the demographic and healthsurveycarried out in Cameroonin 2011 by the national institute of statistics [10] wheresuch violence accounted for around 60% of cases. This prevalencewashigheramongwomenagedbetween 25 and 34 74 (24.6%), an age group in whichpartnersreallydiscovereachother and understand the realities of married life, resultssimilar to thosefound in the 2011 DHS. The proportion of womenwhohadexperienceddomestic violence decreasedwithage, from 24.66% in the 24-34 agebracket to 3.33% in the 35-45 agebracket; theseresults are in line withthosefound in the 2011 DHS, wherethisfrequencyfellfrom 24% to 18%.

Intimatepartner violence duringpregnancyisworrying and can have significant implications for neonataloutcome. This studyfoundthat the extent of intimatepartner violence duringpregnancywas 24.33% ; thisislowerthan the resultsfound in studies on the effects of domestic violence and pregnancyoutcomecarried out in Tanzania (30%) by Laelago et al (2017) and Vietnam (32.5%) by Hoang et al (2016), but higherthan the studiescarried out in Morocco (18.3%) by Bouffetal et al (2012), Ethiopia (7.3%) by Gebreslasie et al (2020) on domestic violence duringpregnancy, and in Cameroonduring the DHS in 2011 (14%) [11,12,13,14,10] This disparitybetweenresultscouldbeattributed to the study area and to

differences in time and culture. Most of the studieswithhigherprevalencewerecarried out manyyearsago, and itis plausible thatthere has been someimprovement in awareness of the dangers of domestic violence duringpregnancy; however, itisalso possible thatthereisunder-reporting of domestic violence duringpregnancy in ourstudy. Domestic violence in pregnantwomenis a reality thatstudies express withsometimesverywide variations. The highestprevalence rates are alsoobserved in researchdesigned on the basis of repeatedmeasurementsduringpregnancy, detailed face-to-face interviews and in whichseveral questions explore the presence of violent behaviour. On the other hand, the lowestestimates are foundamongwomenfromhighersocioeconomic backgrounds, recruitedfromprivateclinics or subjected in earlypregnancy to a self-administered questionnaire oftenpresented by someoneotherthan the referringprofessional, as Louise Seguin et al (2021) point out in a systematicreview on domestic violence duringpregnancy [15]. The studies by Torres et al (2000) and Brown JB et al (1996) on violence during and afterpregnancy [16,17] foundthatdomestic violence intensifies duringpregnancy in womenwho are victims of domestic violence, and in some cases beginsduringpregnancy; thiswasconfirmed in ourstudy. In a similarvein, Saltzman et al's (2003) study of physical abuse duringpregnancy: an examination of prevalence and riskfactorsin 16 states [18] showedthatamongwomenabusedduringpregnancy by an intimatepartner, a quarter were new cases of violence and threequarterswere a continuation of domestic violence, whichissomewhatdifferentfromourstudywhere new cases accounted for half of the cases.

As far as causes are concerned, in ourstudy, intimatepartner violence couldbeexplained by the womangoing out withoutherpartner's consent (5.3%), quarrellingbetween the twopartners (9%), failure to carry out householdchores (3.7%) and refusal to have sexwithherpartner (3%), as well as manyotherreasonsthatour participants wereunwilling to share, probably due to the extremesensitivity of thissubject. Johnson (1995) notes thatintimatepartner violence is not a unitaryphenomenonattributable to a single cause, but rather a set of behavioursarisingfrom multiple sources, which can manifestthemselves in differentwaysdepending on the individual and the family.

Violence duringpregnancyputswomen at increasedrisk not only for theirownhealth and survival, but also for the survival of theirunbornchild. In the presentstudy, the overallprevalence of obstetric complications was 20.7%; prematuredeliveryhad a prevalence of 7.7%, miscarriageaccounted for 7%, fetaldeath in utero 6.7% and low-birth-weight babies 1.7%. Theseresults are somewhatdifferentfromthosefound by Bouffetal et al (2012) in a study

of domestic violence duringpregnancy [13] where the prevalence of miscarriageswas 44%, prematuredeliveries 18% and stillbirths 3.6%. The presentstudyfoundthatintimatepartner violence wasassociatedwithneonatal complications. The P. value wassignificant at the 5% threshold (0.000), the odds ratio (OR) was 4.192, meaningthatwomenwhowerevictims of intimatepartner violence were 4.192 times more likely to have a neonatal complication thanthosewhowere not, and the confidence intervaldid not contain the value 1 (2.326-7.556). This resultwas in line withthosefound in a meta-analysis by Goodman et al (1993) on violence againstwomen and the physical and mental effects, whichconcludedthattherewas an excessrisk of lowbirthweightassociatedwith violence duringpregnancy (p value 0.045, OR 1.75) [19]. In addition, an excess of spontaneous abortions, lowbirthweight, fetalsuffering or stillbirths, as well as higher rates of chorio-amniotitis and maternal infections werereported by the studies by Saurel-Cubizolles (2005) and Weiss et al (1999) on domestic violence duringpregnancy and sexual abuse as a risk factor for depression in womenrespectively [20,21]. Domestic violence can lead to these complications eitherthrough direct impact (trauma) or indirectly (such as reducednutritionalintake due to psychosocial trauma). In addition to this, womenexperiencesexual violence exposingthem to sexuallytransmitteddiseasesthat can impact neonataloutcome [13]. Duringpregnancy, domestic violence can harm the baby'sdevelopment, whileitincreases, in proportion to itsfrequency, the likelihood of stillbirth, miscarriage, pre-termdelivery or the baby beingbornwith a lowbirthweight [22].

As regards the different types of violence, all formswerereported in ourstudy. Physical violence represented 13.3% of cases, verbal and psychological violence 36%, control violence 7.7%, economic violence 10% and sexual violence 6.7%. Theseresults are lowerthanthose of a studyrecentlypublished in Cameroon by Angela M. et al (2021) on domestic violence and mental disordersamongpregnantwomen living with HIV/AIDS, whichreported 37% physical violence, 44% psychological violence and 31% sexual violence [23] and those of the 2011 DHS, where control violence accounted for 21%, economic violence 29%, physical violence 45%, psychological violence 42% and 20% sexual violence[24]. Control violence exerted by the husband/partnerseemed to concern more womenwhohad been to school (42% or more) thanthosewith no education (31%), whichwasconfirmed in ourstudy. The proportion of womensubjected to sexual violence decreasedwithage, whileemotional violence followed the opposite trend until the age of 35, whenitbegan to decline. Thesevariousforms of violence can occurindependently of one another or simultaneously.

Domestic violence can beassociatedwithseveralfactors. Weperformed a chi-square test of independencewithseveralexplanatory variables and domestic violence as the dependent variable. In bivariateanalysis, wefoundthat the age of the man and the woman, the patient'slevel of education, the partner'slevel of education, the partner'salcohol and drugconsumption, parity, antecedent violence beforepregnancy, age on the day of marriage, choice of partner and marital statusweresignificant variables at the 10% threshold; wethenran a multiple logisticregressionwiththese variables. In ourstudy, domestic violence wasassociatedwith the age of the womansubjected to violence (OR:4.20, P=0.02, CI 1.29-15.84), the factthat the partnerconsumedalcohol (OR:4.14, P=0.02, CI 1.33-13.85) and a history of violence beforepregnancy for womensubjected to violence duringpregnancy (OR:92.91, P=0.001, CI 14.42- 23.24). Womenagedbetween 25 and 34 were 4.2 times more likely to experience violence thanthoseagedbetween 15 and 24, but thisriskdecreased for olderwomen. Womenwhosepartnersdrankalcoholwere 4.14 times more likely to bevictims of violence thanthosewhosepartnersdid not, and womenwhoexperienced violence beforepregnancyweremuch more likely to experienceitduringpregnancy. Theseresults are similar to those of Louise Séguin et al (2021) on domestic violence duringpregnancy: review of the literaturewhereage and partneralcoholconsumptionwereassociatedwithdomestic violence [15]. Age appearswithincreasingconsistency to be a determinant of violence in couples, whether the womanispregnant or not, as Saltzman et al (2003) point out in their article on physical abuse duringpregnancy and the examination of prevalence and riskfactors [18]. Amaro et al [25] report fromtheirstudy on substance use and violence duringpregnancythat the risk of violence duringpregnancy or not istwice as great in the case of multiple drug use (alcohol, narcotics) by the abuser, and thatthereis a well-established association between IPV and alcoholconsumption. It must beacknowledgedthat the linkbetweendomestic violence in general and alcoholconsumption by the abuser iswellestablished, which can bejustified by the behaviouraldeviations and poor self-control thatalcoholprovokes.

CONCLUSION

At the end of ourstudy, the aim of whichwas to assess the risk of obstetrical complications in womenvictims of domestic violence at the Dschang district hospital, the data support the importance of taking an interest in the problem of domestic vio**lence and not consideringit as** a homogeneous reality. It shows that :

- A third of the participants weresubject to domestic violence, and a quarter of themwerevictimsduringpregnancy;
- The prevalence of obstetric complications was 20.7%, withmiscarriagepredominating. Intimatepartner violence iswidespread and isaccompanied by serious complications for the health of both the newborn and the womeninvolved. The association between conjugal violence and obstetrical complications found in ourstudyprovesthis;
- All forms of domestic violence withdifferentfrequencieswerefound in ourstudywith a predominance for psychological violence (36%);
- Factorsassociatedwithdomestic violence werefemaleage, partner'salcoholconsumption and history of violence prior to pregnancy.

Pregnancyistherefore a strategic time for the detection of domestic violence. At present, however, there are still gaps in the literature on domestic violence in Cameroon. Indeed, we have littleepidemiological data on domestic violence from the point of view of bothperpetrators and victims. In thissense, weneed to gain a betterunderstanding of theirdifferenttrajectories, in order to promote a betterunderstanding of thisproblem and, ultimately, to enable the implementation of appropriate and effective interventions.

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